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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER CHANG, RICHARD	
			ART UNIT	PAPER NUMBER
			2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/004,723	Applicant(s) FORSSELL, MIKA	
	Examiner Richard Chang	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-15, 19-21, 24-31, 35-38 and 42 is/are rejected.
- 7) ☒ Claim(s) 7-9, 16-18, 22, 23, 32-34 and 39-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments and amendments, filed on 06/19/2006, with respect to claims 1-42 have been fully considered are moot in view of the new ground(s) of rejection.

2. The following comments fully address applicant's argument with respect to the rejection.

-- In response to applicant's argument that the word "packet" is not mentioned in the cited reference as in the preamble of independent claim 1 (See Applicant ' Remarks, page 12, paragraph 5), the reference clearly discloses a wireless GSM network for both data and voice and it 's well understood that wireless data transmission is fundamentally packet oriented, thus inherently teaches a packet transmission in wireless network.

Furthermore, Lohtia et al. teach a GPRS based uplink/downlink packet radio communication method including MS and SGSN both with LLC, RLC/MAC layer functions wherein SGSN manages communication in the coverage area for the MS's cell change (See Fig. 1, page 2, paragraph [0020]). Both Stephenson et al. and Lohtia et al. teaches similar applications for packet transmission in wireless network, thus it is natural to combine Lohtia et al. into Stephenson et al. Lohtia et al.

-- In response to applicant's argument that the limitation "generating a cell change packet data unit (PDU) message for informing the network of the location of the mobile station in the new cell, buffering the cell change PDU message into a PDU

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transmit queue before any buffered PDUs that were present before the mobile station entered the new cell and transmitting the buffered cell change PDU before any of the buffered PDUS that were present before the mobile station entered a new cell” of independent claim 1 (See Applicant ‘ Remarks, page 12, paragraph 5), the reference clearly discloses that it is common in a wireless network the handover procedure always generate a cell change packet data unit message (reallocation message) for informing the network of the location of the mobile station in the new cell, buffering (storing) the cell change PDU message (reallocation message) into a PDU transmit queue before any buffered PDUs that were present before the mobile station entered the new cell (reallocation message is always the highest level priority when involved in handover between cells) and transmitting the buffered cell change PDU before any of the buffered PDUS that were present before the mobile station entered a new cell (by handover operation requirement (See Col. 15, lines 1-29).

It is the examiner’s position that the limitation of “generating a cell change PDU message for informing the network of the location of the mobile station in the new cell, buffering the cell change PDU message into a PDU transmit queue before any buffered PDUs that were present before the mobile station entered the new cell and transmitting the buffered cell change PDU before any of the buffered PDUS that were present before the mobile station entered a new cell” as cited in claim 1 are clearly anticipated by the cited reference for the reason discussed above.

The examiner also notes that the steps mentioned above in claim 1 are only the general steps for wireless station to change location from one cell to another in wireless

communication and thus rejected by the broadest and reasonable interpretation in the related prior art. Furthermore, the claim 1 does not map, one to one in detailed step, to Fig. 2 or Fig. 3 of the disclosed drawing.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4-6, 10-12, 14-15, 19, 29–30 and 35-37 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US patent No. 6,119,000 ("Stephenson et al.").

Regarding claims 1, 11, 29 and 36, Stephenson et al. teach a system and method for mobile station (12) changing from a current cell to a new cell in a radio network (N1) (a method for dynamic tracking of mobile station in a wireless network) (see Fig. 1), comprising of

entering the new cell (from C1 to C2) (See Fig. 2),

generating a cell change packet data unit (location update request IMSI) message for informing the network (M1) of the location of the mobile station (12) in the new cell (C2) (See Fig. 4, Col. 7, line 33-45),

buffering the cell change PDU message (IMSI) into a PDU transmit queue before any buffered PDUS that were present before the mobile station entered the new cell

(C2), and transmitting the buffered cell change PDU (IMSI) before any of the buffered PDUS that were present before the mobile station entered the new cell (C2) (as highest priority to register the new location to enable proper data routing in the new cell C2 in wireless network N1) (See Fig. 1, Col. 6, line 26-33).

Regarding claims 2, 12, 30 and 37, these claims have limitations that is similar to those of claims 1, 11, 29 and 36 and Stephenson et al. further teaches that a preliminary step of requesting an uplink resource for transmitting the cell change PDU (IMSL) (See Fig. 4, Col. 7, line 33-45), thus it is rejected with the same rationale applied against claims 1, 11, 29 and 36 above.

Regarding claim 4, as discussed above, these claims have limitations that is similar to those of claim 1 and Stephenson et al. further teaches that in response to receiving the cell change PDUS (IMSI-MM) transmits downlink PDUS (New LAI) for the mobile station into the new cell (See Fig. 4, Col. 7, line 33-45), thus it is rejected with the same rationale applied against claim 1 above.

Regarding claims 5 and 14, as discussed above, these claims have limitations that is similar to those of claims 1 and 11 and Stephenson et al. further teaches that the generated cell change PDU is transmitted only if a first PDU in the transmit queue exceeds a predetermined length (predetermined threshold), otherwise the cell change PDU is discarded (deleted) and the first PDU in the transmit queue is transmitted instead (See Col. 17, lines 21-30), thus it is rejected with the same rationale applied against claims 1 and 11 above.

Regarding claims 6 and 15, as discussed above, these claims have limitations that is similar to those of claims 1 and 11 and Stephenson et al. further teaches that a General Packet Radio Service (GPRS) network, wherein the PDUS are Logical Link Control (LLC) PDUS, and where the cell change LLC PDU has a length that fits within one Radio Link Control data block (LI field indicates) (See Fig. 5, Col. 10, line 61 – Col. 11, line 7), thus it is rejected with the same rationale applied against claims 1 and 11 above.

Regarding claims 10, 19 and 35, these claims have limitations that is similar to those of claims 1, 11 and 29 and Stephenson et al. further teaches that setting a priority level of the cell change PDU such that the step of buffering the cell change PDU message (IMSI) into the PDU transmit queue causes the cell change PDU to be transmitted before any lower priority PDUs (at setup level priority) (See Fig. 4, item 4, Col. 7, line 33-45), thus it is rejected with the same rationale applied against claims 1, 11 and 29 above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 13, 20-21, 24-28, 31, 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,119,000 ("Stephenson et al.") in view of US patent application publication US 2002/0082033 A1 ("Lohtia et al.").

Regarding Claim 20, as discussed above, Stephenson et al. teaches substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"prior to the SGSN receiving a communication from the MS, notifying the SGSN of the MS cell change".

Lohtia et al. teach a GPRS based uplink/downlink packet radio communication method including MS and SGSN both with LLC, RLC/MAC layer functions wherein SGSN manages communication in the coverage area for the MS's cell change (See Fig. 1, page 2, paragraph [0020]).

A person of ordinary skill in the art would have been motivated to employ Lohtia et al. in Stephenson et al. in order to obtain a method for dynamic tracking of mobile station in a wireless network and to take advantage of that the SGSN manages communication in the coverage area for the MS's cell change in claim 20.

The suggestion/motivation to do so would have been to have the SGSN manages communication in the coverage area for the MS's cell change, as suggested by Lohtia et al. in page 2, paragraph [0020]. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Lohtia et al. with Stephenson et al. to obtain the inventions specified in claim 20.

Regarding claims 3, 13, 31 and 38, as discussed above, Stephenson et al. teaches substantially all the claimed invention but did not disclose expressly the particular application involving limitations of “a preliminary step of requesting an uplink Temporary Block Flow for transmitting the cell change PDU”.

Lohtia et al. further teaches that a preliminary step of requesting an uplink Temporary Block Flow (uplink TBF timeslot) for transmitting the cell change PDU (See Fig. 13, Col. 19, lines 41-51).

A person of ordinary skill in the art would have been motivated to employ and Lohtia et al. in Stephenson et al. in order to obtain a method for dynamic tracking of mobile station in a wireless network and to take advantage of that a preliminary step of requesting an uplink Temporary Block Flow timeslot for transmitting the cell change PDU in claims 3, 13, 31 and 38.

The suggestion/motivation to do so would have been to have a preliminary step of requesting an uplink Temporary Block Flow timeslot for transmitting the cell change PDU, as suggested by and Lohtia et al. in Col. 19, lines 41-51. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Lohtia et al. with Stephenson et al. to obtain the inventions specified in claims 3, 13, 31 and 38.

Regarding claim 21, these claims have limitations that is similar to those of claim 20 and Stephenson et al. further teaches that the communication is comprised of at least one of a Packet Data Unit (IMSI-MM) and a message (new LAI) (See Col. 7, line 33-45), thus it is rejected with the same rationale applied against claim 20 above.

Regarding claim 24, these claims have limitations that is similar to those of claim 20 and Stephenson et al. further teaches that notifying occurs in response to the MS (12) being assigned a TDMA frame number (time slot) of when to make the cell change (See Fig. 10, Col. 15, lines 51-67), thus it is rejected with the same rationale applied against claim 20 above.

Regarding claim 25, these claims have limitations that is similar to those of claim 20, thus it is rejected with the same rationale applied against claim 20 above.

Regarding claim 26, these claims have limitations that is similar to those of claim 20 and Stephenson et al. further teaches that notifying occurs in response to the network receiving a Temporary Logical Link Identifier (IMSI) from the MS (12) (See Fig. 4, Col. 7, line 33-45), thus it is rejected with the same rationale applied against claim 20 above.

Regarding claim 27, these claims have limitations that is similar to those of claim 20 and Stephenson et al. further teaches that method for organizing packet data units into a transmit queue, comprising:

passing a PDU to a Radio Link Control (RLC) unit, the PDU having a flag (indicative number) for indicating a priority of the PDU relative to other PDUS,

storing the PDU into the transmit queue in accordance with the indicated priority, and transmitting the stored PDU to a radio channel before any stored PDUS having a lower priority (See Fig. 3, Col. 10, line 53 to Col. 11, line 10), thus it is rejected with the same rationale applied against claim 20 above.

Regarding claim 28 and 42, these claims have limitations that is similar to those of claims 27 and 36 and Stephenson et al. further teaches that the RLC unit is associated with a mobile station, where the PDU is a cell change PDU, and where the cell change PDU is assigned a highest priority (to set up routing table for following PDU's in the new cell C2) (See Col. 7, line 33-45), thus it is rejected with the same rationale applied against claims 27 and 36 above.

Allowable Subject Matter

7. Claims 7-9, 16-18, 22-23, 32-34 and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Reason for indicating Allowable Subject Matter

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art along or in combination fails to teach or make obvious the following limitations:

“the step of generating operates a LLC unit to use a Service Access Point Indicator (SAPI) of a GPRS Mobility Management (GMM) unit to form an empty GMM PDU, and where a mobile station location update procedure is triggered by a Serving GPRS Support Node when the GMM PDU is received” as recited in the dependent claims 7 and 16 ,

“a Radio Link Control/Medium Access Control (RLC/MAC) unit initiates an uplink Temporary Block Flow (TBF) in the new cell, and indicates to a RLC/MAC of the network if an ACK or an UNACK RLC mode is to be used when transmitting the cell change PDU” as recited in the dependent claims 8 and 17, and

“in response to the MS making access in the second cell, sending a Channel Request that indicates a Cell Update operation; establishing an uplink (UL) Temporary Block Flow (TBF) for transferring Logical Link Control (LLC) Packet Data Units (PDUs) from the MS to the network; in response to the network receiving an unknown Temporary Logical Link Identifier (TLLI) from the MS, sending a message to the SGSN; and based on the message, determining with the SGSN that the MS is located in the second cell” as recited in the dependent claim 22.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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